

What is claimed is:

1. A device for reducing the contamination of a sensor that is connected with a control unit, this connection including a voltage supply, a ground connection and a signal connection,

5 wherein

switching means are provided that interrupt either the voltage supply or the ground connection, and wherein the control unit includes a software function that delivers the triggering signal for the switching means.

2. The device as recited in Claim 1,

10 wherein

the switching means for interrupting the voltage supply or the ground connection are located in the control unit.

3. The device as recited in Claim 1,

wherein

15 the switching means for interrupting the voltage supply or the ground connection are located in the sensor, in particular in an evaluation unit of the sensor.

4. The device as recited in one of the preceding Claims,

wherein

20 the switch is a high-side switch that interrupts the voltage supply, or a low-side switch that interrupts the ground connection.

5. The device as recited in Claim 1, 2, 3 or 4,

wherein

the control unit is an engine control unit.

6. The device as recited in one of the preceding Claims,

25 wherein

the sensor is a sensor in a motor vehicle, in particular a hot film air-mass meter, and the signal is a signal that represents an air mass.

7. The device as recited in one of the preceding Claims,

wherein

the sensor includes at least one sensor element and an evaluation device that is connected with the sensor element, in particular an evaluation circuit, the connection including at least one voltage supply, a ground connection and a signal connection.

5 8. The device as recited in one of the preceding Claims,

wherein

the electronic control unit or the sensor evaluation circuit includes means for detecting contamination, and means for generating a triggering signal for the switching means to interrupt the voltage supply, in particular a processor with memory means and an associated software function.

10

9. The device as recited in one of the preceding Claims,

wherein

electronic, electrically operated biochemical, biotechnological or other types of sensors or sensor elements are used that communicate with a communication partner and report contamination and actively safeguard the sensors or sensor elements against contamination via the deliberate deactivation of sensor elements or parts thereof.

15

10. A method for reducing the contamination of a sensor that is connected with a control unit, with a device as recited in one of the preceding Claims,

wherein

20 the software function evaluates the measurement signal delivered by the sensor and generates control signals S1, S2, S3 for the switching means based on specifiable parameters of the measured signal or on variables derived from the measured signal.

15

11. The method as recited in one of the preceding Claims,

wherein

25 the software function detects a contamination of the sensor or contamination in the region of the sensor and generates the control signals as a function of this detection.

20

12. The method as recited in one of the preceding Claims,

wherein

the switch that has interrupted the power supply to the sensor is reset after a specifiable

period of time, and the connection between the control unit and the sensor is restored.

13. The method as recited in one of the preceding Claims,

wherein

a hardware deactivation function is combined with a software function, the combination  
5 taking place such that the software function actively deactivates the switch – which is  
the hardware – such that, if a harmful media carry-in takes place during operation, this  
is detected by the sensor itself or by the control unit, and the sensor is deactivated.

14. The method as recited in one of the preceding Claims,

wherein

10 the sensor is deactivated during the after run of the electronic control unit via the  
opening of either the high-side switch or the low-side switch.

15. The method as recited in one of the preceding Claims,

wherein

15 the measured value is output as frequency (F1) with an on/off ratio TV1 and, if there is  
contamination, a default value (F2) is output with an on/off ratio TV2 that differs from  
on/off ratio TV1 of the frequency of the measured value in a specifiable manner.

16. The method as recited in one of the preceding Claims,

wherein

20 the measured value is output as frequency (F1) with a first pulse-width ratio and, if there  
is contamination, a default value is output with a second pulse-width ratio that differs  
from the first pulse-width ratio of the measured value in a specifiable manner.